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West American Mollusk Types at the British Museum (Natural History)

III. ALCIDE D'ORBIGNY'S South American Collection

BY

A. MYRA KEEN

Department of Geology, Stanford University, California

(Plate 1)

ALCIDE DESSALINES D'ORBIGNY was born September 6th, 1802, at Couëron, France, near Nantes, in the northwestern part of the country and thus not far from the seacoast of the Bay of Biscay. He was son of a physician of broad interests who had begun the study of marine life, especially Foraminifera. When the father's eyesight began to fail, Alcide assisted him at the microscope and thus early developed his talents for observation and drawing. He continued an interest in natural history during school training at La Rochelle. By the time he was 23, Alcide had constructed a set of models of Foraminifera (carved from wood and reproduced in plaster) and had published a classification of the group in tabular form. Soon after this he was appointed as travelling naturalist to the Muséum d'Histoire Naturelle de Paris. His first assignment was a zoological expedition to South America. He left France in 1826 and did not return until 1833, by which time he had explored parts of Brazil, Uruguay, Patagonia, Chile, Bolivia, and Peru. On the West Coast, in 1833, he collected at Callao and Islay, Peru, and at Arica, Cobija (then in Bolivia), and Valparaiso, Chile.

Back in France he devoted himself to the preparation of several large reports on his work in ethnology and zoology – not only on the "Voyage dans l'Amérique Méridionale . ." but also on the mollusks of the West Indies and invertebrates from the Canary Islands. Completing these large works on the Recent faunas, he turned to work in paleontology for the rest of his life and published a number of monumental reports in this field also. When a Chair in Paleontology was established at the Muséum in 1853, he was elected as its first incumbent. Busy with this new responsibility, he shut himself off

from the rest of the world until his work was terminated by death in June 1857, a few months before he would have been 55 years old. The quality and the quantity of his published work give ample evidence of the great energy and ability that he had.

In the early 1850's Orbigny transferred his molluscan collections to the British Museum (Natural History), and an inventory of the South American portion was published by Gray, the curator, in 1855. Because of its historic significance, the collection has been kept intact and has been left as Orbigny mounted and labelled it, the shells being glued to heavy cardboard blocks. In a neat hand, Orbigny had lettered the names and the locality information. He also had indicated the collector if other than himself (all lots from north of Callao had been taken by a Monsieur Fontaine). The collection has not been arranged in any systematic order, although it is separated into three geographic suites - West American, Cuban, and Canary Island. There has been some disassociation of specimens and cards, what with the transfer of the material from cabinet to cabinet during the 110 years since it was sent to London. I found little difficulty in reassembling the lots when I had occasion to examine this material. In 1964, when I was at the Museum for some months, I put aside what seemed to be all the lots that Orbigny had credited to himself as author and made record photographs of most of them. Reviewing my work later, at home, I realized that I had stopped a little short of completeness. At the Museum again in 1965 for a few days, I searched out several lots I had overlooked, but a crowded schedule prevented the page-by-page review of Orbigny's published work and direct comparison of this with the collection itself. Thus, I now find that there

were a few items for which I did not search. However, I did succeed in spotting most of the types.

Among the material in the so-called Cuban collection (actually from several islands of the West Indies), I noted and photographed a few forms that have been identified by authors as also occurring on the West Coast of the Americas – Vermetus corrodens, Trigonulina ornata (now Verticordia), Perna chemnitziana (now Isognomon), and Crenella divaricata. These will not be reviewed in the present paper, for they were not described as "South American."

The volume on Mollusca published by Orbigny in the "Voyage dans l'Amérique Méridionale ..." comprised some 758 pages of text and 85 colored plates. The work was issued irregularly over a period of years, completed in 1847. Collation of the pages and plates has been difficult for bibliographers. Libraries of that day did not always mark the dates of receipt of separate parts or keep the original wrappers. Early references to the work therefore were apt to be incomplete or inaccurate. Charles Sherborn, compiler of that greatest of nomenclators, the "Index Animalium," in 1902 - 1933, expressed dissatisfaction with the then-available evidence as to dates. Later, however, he had access to a set of the work in original wrappers and published a tabular collation (SHERBORN & GRIFFIN, 1934). For the present list I have adopted the revised dates. Under "References" I have quoted the evidence given by Sherborn & Griffin but have rearranged it into chronologic order. Dates on three plates still are lacking, but this affects only one name, which therefore will have to be dated as 1847 under Article 22 (c) of the International Code. Many of the date changes in the present list are caused by the validation of names in the plate explanations, which often were issued in advance of the text.

The format adopted here is to cite the species names in their original generic combination but in a modern systematic sequence rather than that followed by Orbigny. His name as describer is to be understood and is not repeated for each entry. An asterisk preceding the species name indicates a change in date from that in most lists. Then, in order, follow: date; page, plate, and figure reference; type locality; British Museum registry number (note that most of these were assigned December 4th, 1854); remarks, including notes on nomenclature; modern allocation, if different from Orbigny's; references to a figure, either in a more modern work or in this paper. Because the "Voyage . . " is a rare work and not available in most libraries, I have cited reproductions of his figures by later authors (notably Tryon and Pilsbry in the Manual of Conchology) and discussions in more

accessible modern works. Although I photographed most of the types, I am including in my plate mostly the forms that have not been well understood by authors.

A few minor gastropod groups (pteropods, heteropods, and nudibranchs) have been omitted in this canvass, and it does not cover Cephalopoda. Non-marine forms of course are excluded.

A comment as to the spelling of D'Orbigny's name is in order, for authors have variously recorded it. Dall adopted the spelling Orbigny in 1909, and I have followed this precedent for two reasons: in indexes, according to the Style Manual for Biological Journals, the entry would be "Orbigny, Alcide d'"; and, for formation of scientific names from personal names, the International Code recommends dropping of the nobiliary particle de, so that a name dedicated to him should be spelled orbignyi. It is, of course, correct to use it in connection with the Christian name: "Alcide d'Orbigny," and, in writing of him as a person, when not citing the Christian name, one presumably would use the spelling "D'Orbigny." As species authority, he is Orbigny. One must admit, though, that he, on his labels and in his book, used the abbreviation "d'O." or "d'Orb.".

GASTROPODA

PATELLACEA

* Patella araucana. 1839: p. 482, pl. 65, figs. 4-6. Valparaiso, Chile. B. M. no. 54.12.4.244, 11 specimens. Refigured by Pilsbry, 1891, Man. Conch., v. 13, p. 35, pl. 16, figs. 21, 22. Acmaea.

Patella ceciliana. 1841: p. 482, pl. 81, figs. 4-6. Falkland Islands. Range to Antofagasta and Valparaiso, Chile, fide Dall, 1909. Not searched. Acmaea.

Patella parasitica. 1841: p. 481, pl. 81, figs. 1-3. Valparaiso and Arica, Chile. B. M. no. 54.12.4.300, 302, 15 specimens. Scurria.

Patella pretrei. 1841: p. 481, pl. 78, figs. 15-17. Payta, Peru; Valparaiso and Arica, Chile. Not searched. Refigured, Pilsbry, op. cit., p. 33, pl. 34, figs. 9, 10. = Acmaea viridula (LAMARCK, 1819).

Patella maxima. 1841: p. 482 (no fig.). Payta, Peru. B. M. no. 54.12.4.437, 1 specimen. = P. mexicana Broderip & Sowerby, 1829.

"Acmaea scutum Esch." of Orbigny, 1839 (not of RATHKE ex Eschscholtz, MS, 1833): p. 479, pl. 64, figs. 8 to 10. Cobija and Arica, Chile. B. M. no. 54.12.4.304, 12 specimens. Refigured, Pilsbry, 1891, op. cit., p. 32, pl. 4, figs. 77, 79. The identity of the species

remains unclear. D'Orbigny had first labelled this Lottia punctata GRAY, a preoccupied name, then changed to Acmaea scutum ESCH. A new name has been provided for his misidentification: Acmaea orbignyi Dall, 1909.

FISSURELLACEA

Fissurella fontainiana. 1841: p. 477, pl. 78, figs. 12-14. Islay, Peru, 18 fms. B. M. no. 54.12.4.613. Very close to Diodora alta (C. B. Adams, 1852) and to Fissurella aspera Sowerby, 1835 (non Rathke ex Eschscholtz MS, 1833) = Fissuridea asperior Dall, 1909, the former from Panama, the latter from Peru. Diodora. (Plate 1, Figure 13).

TROCHACEA

Trochus araucanus. 1840: p. 410, pl. 55, figs. 5-8. Valparaiso, Chile. Not searched. = Monodonta nigerrima (GMELIN, 1791), fide PILSBRY, 1889, Man. Conch., v. 11, p. 97.

Trochus luctuosus. 1840: p. 409, pl. 76, figs. 16-19. Valparaiso, Chile, 12 fms. B. M. no. 54.12.4.390, 14

specimens. Tegula (Chlorostoma).

Trochus microstomus. 1840: p. 410, pl. 76, figs. 20, 21.

Valparaiso, Chile. Not searched. = Chlorostoma tridentatus (POTIEZ & MICHAUD, 1838), fide PILSBRY, 1889, op. cit., p. 175.

Littorina umbilicata. 1840: p. 394, pl. 76, figs. 1-3.
Arica and Cobija, Chile. Not searched. Refigured, STRONG, 1928, Proc. Calif. Acad. Sci., ser. 4, vol. 17, no. 6, p. 200, pl. 10, figs. 16, 17, as a phasianellid. Tricolia.

NERITACEA

Neritina fontaineana. 1840: p. 406, pl. 76, figs. 14, 15. Guayaquil, Ecuador. B. M. no. 54.12.4.382, 8 specimens. Refigured, TRYON, 1888, Man. Conch., vol. 10, p. 76, pl. 23, figs. 92, 93, as N. latissima Broderip, 1833, var. A later synonym is: N. guayaquilensis "Orb." of Sowerby, 1849.

LITTORINACEA

Littorina araucana. 1840: p. 393, pl. 53, figs. 8-10. Chile. Not searched. Refigured, TRYON, 1887, op. cit., vol. 9, p. 250, pl. 48, figs. 95, 96.

TURRITELLACEA

Turritella broderipiana. 1840: p. 388 (no fig.). Payta, Peru. B. M. no. 54.12.4.356, 1 specimen. Type of subgenus Broderiptella Olsson, 1964. (Plate 1, Figure 21).

CERITHIACEA

* Cerithium montagnei. 1839: p. 443, pl. 63, figs. 3, 4. Guayaquil, Ecuador, in brackish water. B. M. no. 54.12.4.504, 4 specimens. Cerithidea.

Cerithium peruvianum. 1841: p. 443, pl. 77, figs. 9, 10.
Payta, Peru; Arica, Chile. B. M. no. 54.12.4.511, 6
specimens. Refigured, TRYON, 1887, op. cit. p. 153,
pl. 30, fig. 21. Bittium. (Plate 1, Figures 12 a-b).

Rissoina inca. 1840: p. 395, pl. 53, figs. 11-16. Arica and Cobija, Chile. "Cobija, Bolivia," on original label. B. M. no. 54.12.4.367, 13 specimens. Type of genus Rissoina. (Plate 1, Figures 6 a-c).

NATICACEA

Natica cora. 1840: p. 401, pl. 76, figs. 10, 11. Callao, Peru. B. M. no. 54.12.4.375, 7 specimens. Polinices. (Plate 1, Figures 10 a-c).

HIPPONICACEA

Pileopsis ungaricoides. 1841: p. 457, pl. 78, fig. 4. Payta, Peru. B. M. no. 54.12.4.554, 1 broken specimen. Refigured, TRYON, 1886, op. cit., vol. 8, p. 131, pl. 40, figs. 82, 83. Capulus. (Plate 1, Figures 14 a-b).

CALYPTRAEACEA

* Calyptraea intermedia. 1839: p. 463, pl. 59, figs. 4-6. Islay, Peru, 20 fms. B. M. no. 54.12.4.566, 3 specimens. Refigured, TRYON, 1886, op. cit., vol. 8, p. 122, pl. 35, figs. 89, 90. (Plate 1, Figures 11 a-b).

CYMATIACEA

Ranella kingii. 1841: p. 451 (no fig.). Mocha, Chile, 10 fms. B. M. no. 54.12.4.533, 3 specimens. Pro Triton ranelliformis KING & BRODERIP, 1832, which also was renamed Ranella vexillum Sowerby, Oct. 1841. Argobuccinum.

MURICACEA

Murex monoceros. 1841: p. 454, pl. 78, figs. 1, 2 [non Sowerby, 1841]. Payta, Peru. B. M. no. 54.12.4. 547, 2 specimens. Refigured and renamed, Tryon, 1880, op. cit., vol. 2, p. 126, pl. 35, figs. 384, 385, as Murex fontainei Tryon, 1880. Ceratostoma. Very close to C. lugubris (Broderip, 1833), which was erroneously placed in synonymy in "Sea Shells of Tropical West America" as an Ocenebra. The

varices are heavier than in C. lugubris, of which it may prove to be a variant. There is a small tooth on the outer lip. (Plate 1, Figures 18 a-b).

Purpura delessertiana. 1841: p. 439, pl. 77, fig. 7. Payta, Peru. B. M. no. 54.12.4.493. Refigured, Tryon, 1880, op. cit., vol. 2, p. 169, pl. 50, fig. 95. Thais (Stramonita). (Plate 1, Figure 15).

BUCCINACEA

Columbella sordida. 1841: p. 430, pl. 77, figs. 2-4. Callao, Peru: Arica, Chile. B. M. no. 54.12.4.450, more than 12 specimens. Refigured, TRYON, 1883, op. cit., vol. 5, p. 117, pl. 47, fig. 42. = Mitrella unicolor (Sowerby, 1832).

* Fusus fontainei. 1839: p. 447, pl. 63, fig. 2. Callao, Peru; Cobija, Chile. B. M. no. 54.12.4.517, 5 specimens. Refigured, TRYON, 1881. op. cit., vol. 3, p. 137, pl. 56, fig. 379. Synonym: Fusus alternatus Philippi, 1847, usually cited as the prior or preferred name. Austrofusus.

* Fusus purpuroides. 1839: p. 448, pl. 65, fig. 1. Callao and Payta, Peru, 6 fms. B. M. no. 54.12.4.501, 5 specimens. Refigured, TRYON, 1881, op. cit., vol. 3, p. 149, pl. 42, fig. 217. — Cantharus (Solenosteira) fusiformis (BLAINVILLE, 1832).

Murex inca. 1841: p. 455, pl. 78, fig. 3. Callao, Peru, 6 fms. B. M. no. 54.12.4.548, 5 specimens. Refigured, TRYON, 1881. op. cit., vol. 3, p. 164, pl. 74, fig. 301. Cantharus, s. l. (Plate 1, Figures 9 a-b).

Nassa fontainei. 1841: p. 433, pl. 77, figs. 5, 6. Payta, Peru. B. M. no. 54.12.4.456-457, 2 specimens. Refigured, but poorly, Tryon, 1882, op. cit., vol. 4, p. 32, pl. 10, fig. 102, as a synonym of N. exilis, from which the lectotype (here selected) differs by being proportionately wider, the axial ribs with beads at the suture. Nassarius. No. 456 is Orbigny's figured specimen and is here selected as lectotype; no. 457, although mounted and labelled by Orbigny as this species, seems to be closer to N. versicolor (C. B. Adams, 1852). (Plate 1, Figure 3).

VOLUTACEA.

Mitra inca. 1841: p. 427, pl. 77, fig. 1. Payta, Peru. B. M. no. 54.12.4.434, 1 specimen. Refigured, TRYON, 1882, op. cit., vol. 4, pl. 39, fig. 140. Mitra (?Scabricola). (Plate 1, Figure 17).

OPISTHOBRANCHIATA

ANASPIDEA

Bulla peruviana. 1837: p. 211, pl. 19, figs. 4, 5. Peru. Not searched. Refigured, Pilsbry, 1895, op. cit., vol. 15, pl. 43, figs. 3-5. Haminoea.

Tornatella venusta. 1840: p. 399, pl. 56, figs. 4-6. Payta, Peru. Not searched. Refigured, Pilsbry, 1893, op. cit., vol. 15, p. 164, pl. 18, figs. 100, 101. Acteon (Rictaxis), near A. casta (Hinds, 1844) but with a lower spire and more coloration.

Explanation of Plate 1

All specimens in the Type Collection, Mollusca Section, British Museum (Natural History)

Figure 1: Lima pacifica Orbiony. Holotype of Lima arcuata Sowerby. x 0.8.

Figure 2: Mytilus "falcatus" Orbigny = M. strigatus Hanley.
Syntype, from Brazil. x 0.5.

Figure 3: Nassa fontainei Orbigny. Lectotype. x 1.5.
Figure 4, a-c: Auricula globulus Orbigny. 3 syntypes. x 2.
Figure 5, a-b: Mytilus soleniformis Orbigny. 2 syntypes. x 0.8.
Figure 6, a-c: Rissoina inca Orbigny. 3 syntypes. x 1.7.
Figure 7, a-b: Pectunculus "minor" Orbigny = Glycymeris chemnitzii Dall. Exterior and interior of holotype. x 0.8.

nitzii Dall. Exterior and interior of holotype. x o.8. Figure 8, a-b: Venus paytensis Orbigny. Exterior and interior of 2 syntypes of Cytherea affinis Broderip. x o.7.

Figure 9, a-b: Murex inca Orbiony. Back and apertural views, 2 syntypes. x 1.

Figure 10, a-c: Natica cora Orbigny. 3 syntypes, back and apertural views. x 1.

Figure 11, a-b: Calyptraea intermedia Orbiony. Interiors of 2 syntypes. x 2. (Actually, specimens are circular in

outline but appear oblique because of the necessary camera angle).

Figure 12, a-b: Cerithium peruvianum Orbigny. 2 syntypes x 5.5.

Figure 13: Fissurella fontainiana Orbigny. Holotype. x 1.3. Figure 14, a-b: Pileolus ungaricoides Orbigny. a) above, interior, x 1.3; b) below, exterior, x 2.2.

Figure 15: Purpura delessertiana Orbigny. Syntype. x 1. Figure 16, a-b: Ostrea aequatorialis Orbigny. 2 syntypes.

a) left, exterior, b) right, interior x 0.5.

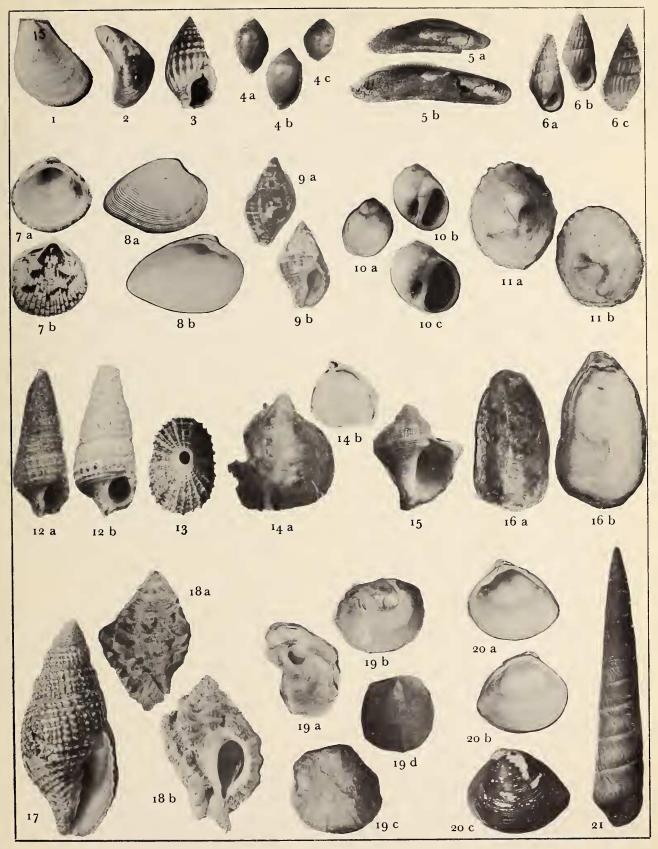
Figure 17: Mitra inca Orbigny. Holotype. x 2.

Figure 18, a-b: Murex "monoceros" Orbigny = M. fontainei Tryon. a) back, b) apertural views. 2 syntypes. x 1.1.

Figure 19, a-d: Anomia peruviana Orbigny. Above, 2 broken syntypes showing the perforate valve; below, 2 other syntypes showing exterior sculpture. x 0.8.

Figure 20, a-c: Cyclas fontainei Orbigny. Interior views of one syntype, exterior of another. x 0.5.

Figure 21: Turritella broderipiana Orbigny. Holotype. x 0.4.





PYRAMIDELLACEA

Chemnitzia cora. 1840: p. 398, pl. 76, figs. 7-9. Payta, Peru. Not searched. Turbonilla.

CEPHALASPIDEA

- * Aplysia inca. 1836: p. 207, pl. 19, figs. 1-3. Callao, Peru. Not searched. Refigured, PILSBRY, 1895, op. cit., vol. 16, pl. 19, figs. 29-31.
- * Aplysia nigra. 1836: p. 209, pl. 18, figs. 1, 2. Callao, Peru. Not searched. Refigured, PILSBRY, loc. cit., pl. 22, figs. 10, 11.
- * Aplysia rangiana. 1835: p. 210, pl. 17, figs. 11-13. Payta, Peru. Not searched. Refigured, PILSBRY, loc. cit., pl. 19, figs. 34-36.

PULMONATA

- Auricula acuta. 1835: (Magasin de Zool., vol. 5, p. 23); figured, 1837, p. 327, pl. 42, figs. 4, 5. Guayaquil, Ecuador. Not searched. Marinula.
- Auricula globulus. 1835 (Magasin de Zool., p. 22, ex Ferussac, MS?); cited, 1837, p. 327, as "d'Orb.", but not figured. Guayaquil, Ecuador. B. M. no. 54.12.4.243, 3 specimens. Original label credits the name to Ferussac; one syntype figured by Reeve, 1878, Conchologia Iconica, vol. 20, Auricula, pl. 6, fig. 43. Detracia. (Plate 1, Figures 4 a-c).
- * Auricula reflexilabris. 1837: p. 326, pl. 42, figs. 1-3. Lima and Callao, Peru. Not searched. Tralia.
- Auricula stagnalis. 1835 (Magasin de Zool., p. 23); figured, 1837: p. 325, pl. 42, figs. 7, 8. Guayaquil, Ecuador. B. M. no. 54.12.4.240, 2 specimens. Ellobium.

AMPHINEURA

- Chiton bicostatus. 1841: p. 486, pl. 81, figs. 7-9. Peru; Arica, Chile. Not searched. = C. pulchellus Gray, 1828. Callistochiton, fide DALL, 1909.
- * Chiton inca. 1839: p. 486, pl. 65, figs. 20-24. Islay, Peru. Refigured, Pilsbry, 1894, op. cit., vol. 14, pl. 27, figs. 52-54, as Ischnochiton.

PELECYPODA

NUCULACEA

* Leda sowerbyana. 1845: p. 544 (no fig.). Xipixapi, Ecuador. New name for Nucula lanceolata "La-MARCK, 1819" of G. Sowerby, 1833 [non J. Sower-By, 1817]. Probable holotype at B. M., registry

- number not yet assigned. Adrana. (Species figured and discussed by Olsson, 1961, p. 69, pl. 3, fig. 3).
- * Leda ornata. 1845: p. 546, pl. 82, figs. 4-6. Payta, Peru. Not searched. Nuculana (Saccella). (Species discussed by Olsson, 1961, op. cit., p. 60, pl. 2, fig. 3).

ARCACEA

- Arca aequatorialis. 1846: p. 636 (no fig.). Santa Elena, Ecuador. New name for Arca ovata Reeve, 1844 [non Gmelin, 1791]. Reeve's type searched but not yet located at B. M.; cited as from Cuming Collection by Reeve. Anadara (Cunearca). (Species figured and discussed by Olsson, 1961, op. cit., p. 95, pl. 9, figs. 4, 5.
- Arca reeveana. 1846: p. 635 (no fig.). Payta, Peru. B. M. no. 54.12.4.786, 2 specimens. New name for "Arca helblingii Bruguière" of Reeve, 1844 [not of Bruguière, 1789]. Barbatia (Cucullaearca).
- Arca sowerbyi. 1846: p. 637 (no fig.). Atacama, Colombia, 7 fms. Holotype searched at B. M., 1964, but not found. Unneeded innovation for Arca biangulata Sowerby, 1833, non A. biangula Lamarck, 1805. Species figured and discussed by Olsson, 1961, op. cit., p. 98, pl. 8, fig. 5, as Anadara (Caloosarca), a new subgenus by Olsson, 1961.
- Pectunculus minor. 1846: p. 628 (no fig.). Isla Plata, Ecuador. Homonym (non Lea, 1833); renamed Glycymeris chemnitzii Dall, 1909. Based on a figure in Reeve, Conchologia Iconica, vol. 1, Pectunculus pl. 6, fig. 28. Holotype, B. M. registry number not yet assigned. Considered a synonym of Tucetona strigilata (Sowerby, 1835) by Olsson, 1961, p. 108, pl. 11, fig. 3. Glycymeris. (Plate 1, Figures 7 a-b).

MYTILACEA

- Mytilus americanus. 1846: p. 648 (no fig.). Callao, Peru. Not searched. Probably a synonym of M. (Aulacomya) ater MOLINA, 1782.
- * Mytilus falcatus. 1846: pl. 84, figs. 38, 39 (as M. charruanus). [Non Goldfuss, 1837]. Rio de Janeiro, Brazil; Maldonado, Uruguay. B. M. nos. 54.12.4. 812-813, 6 or more specimens, labelled as M. falcatus. Allocated to Mytella by Soot-Ryen, 1955, p.50, and reported as ranging from Bahía de Petitlan, Mexico to Ecuador and the Galápagos Islands. Olsson, 1961, however (p. 113-114) cites only Mytilus arciformis (Dall, 1909) and rejects Mytella "falcata" by implication from the West Coast fauna, citing the range of Mytilus arciformis (which he does not consider to be a Mytella) as El Salvador to Guayaquil,